NCVET Code

2022/ES/SCGJ/06462

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:
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List of documents submitted in support of the Qualification File

1. Model Curriculum (Annexure-I)

SUMMARY

1	Qualification Title:	Solar EV Charging Entrepreneur
2	Qualification Code, if any: -	SGJ/Q1801
3	NCO code and occupation: -	NCO-2015/3113.0901 Cluster In-charge
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term):	**Nature:** This Qualification contains National Occupation Standards for promoting entrepreneurial opportunities for Installation, Operation and maintenance of Solar Powered EV Charging station. **Purpose of the qualification:** A large number of Solar EV charging station Entrepreneurs shall be required to set up an enterprise to operate solar integrated EV charging stations/ Charging Point(s) for charging of electric vehicles at various locations. Strengthening EV charging infrastructure is critical to enable faster adoption of EVs across the country. This qualification will ensure that certified and skilled entrepreneur foray into Solar integrated EV charging business space to ensure the integration of low cost and green energy in fast growing EV charging market.
5	Body/bodies which will award the qualification:	Skill Council for Green Jobs
3	Body which will accredit providers to offer courses leading to the qualification:	Skill Council for Green Jobs
7	Whether accreditation/affiliation norms are already in place or not, if applicable (if yes, attach a copy)	Yes
8	Occupation(s) to which the qualification gives access:	Entrepreneur
9	Job description of the occupation:	Solar EV Charging Entrepreneur sets up an enterprise with an aim to provide a charging service to EV users while utilising solar energy (along with Grid power). This entrepreneur shall establish, setup and operate solar integrated EV charging

		stations/ Charging Point(s) for charging of electric vehicles at various locations to enable faster adoption of EVs across the country by ensuring safe, reliable, accessible, low cost and sustainable EV charging infrastructure. As per the revised guidelines by the Ministry of Power, an entity is free to set up public charging EV stations provided such stations meet the technical, safety, performance standards and protocol laid down by the Ministry of Power, Bureau of Energy Efficiency (BEE) and Central Electricity Authority.
10	Licensing requirements:	NA
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided):	-
12	Level of the qualification in the NSQF:	Level 4
13	Anticipated volume of training/learning required to complete the qualification:	390 Hours including 300 hours of mandatory NOS (with 60 hours of employability skills) and 90 hours of On the Job (OJT) training
14	Indicative list of training tools required to deliver this qualification:	As per Model Curriculum attached
15	Entry requirements and/or recommendations and minimum age:	10th Class Pass + NTC (1 year after Class 10th), with 1 year of relevant experience **OR** 10th Class Pass + NTC (2 years after Class 10th) **OR** 10th Class Pass with 3 Year Diploma, with no experience **OR** 12th Class Pass, with 6 months of relevant experience **OR** Certified on relevant NSQF Level 3, with 2 years of relevant experience **16 years**
16	Progression from the qualification:	Solar EV Charging Dealership or Channel Partner (level 5)

17	Arrangements for the Recognition of Prior learning (RPL):	SCGJ recognizes that there may be candidates who have prior learning experience in the Renewable energy industry, EV manufacturing/Sales & service, EV charging station Sector and are desirous of being certified for creating an enterprise/business in Solar Powered EV charging station domain. •Propose to carry out RPL for candidates working with Electric vehicle industry, across the sector •Identify the candidates through training need analysis of the Solar and Electric vehicle manufacturing sector. •Develop the RPL Training Delivery Plan and bridge course for bridging the skill gap
18	International comparability where known (research evidence to be provided):	ISCO-08/3113
19	Date of planned review of the qualification:	16th Nov 2025
20	Formal structure of the qualification Mandatory/Optional components	

	Title of component and identification code/NOSs/Learning outcomes	**Mandatory /Optional/Elective**	**Estimated size (learning hours)**	**Level**
	Common Module			
(I)	SGJ/N1803: Introduction to Solar EV Charging system and the evolving business opportunities it offers	Mandatory	30	4
(II)	SGJ/N0149: Elements of Solar powered EV Charging Stations	Mandatory	30	4
(III)	SGJ/N1811: Survey site and discuss key parameters for installation of Solar based EV charging system	Mandatory	30	4
IV	SGJ/N1812: Assess lifecycle cost for installing Solar based EV charging	Mandatory	30	4

	station			
V	DGT/VSQ/N0102: Employability Skill	Mandatory	60	4
VI	SGJ/N1813: Analyse key technical and business aspects for design, installation, and O&M of solar based EV charging system	Mandatory	30	4
VII	SGJ/N1814: Oversee the Installation and O&M of Solar based EV charging System	Mandatory	30	4
VIII	SGJ/N1815: Case studies showcasing best practices in system installation, successful operations across concerned business models of solar based EV charging station	Mandatory	30	4
IX	SGJ/N1816: Maintain Personal Health and Safety with solar plus Grid EV charging infrastructure	Mandatory	30	4
	On the Job Training(OJT)		**90**	
	Grand Total including 390 Hours including 300 hours of mandatory NOS (with 60 hours of employability skills) and 90 hours of On the Job (OJT) training		**390**	

SECTION 1
ASSESSMENT

21	**Body/Bodies which will carry out assessment:** Skill Council for Green Jobs through its affiliated and accredited Assessment Agency
22	**How will RPL assessment be managed and who will carry it out?** The RPL assessment will be carried out through pre-assessment, identifying the skills gaps, provide bridge training to cover the competency gap, where required, and then conduct final assessment of the candidates. Final assessment will be carried out by affiliated Assessment Agency of SCGJ, as per RPL Policy and Guidelines
23	**Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.** 1. Assessment System Overview: • Batches assigned to the assessment agencies for conducting the assessment on SDSM/SIP or email • Assessment agencies send the assessment confirmation to VTP/TC looping SSC • Assessment agency deploys the ToA certified Assessor for executing the assessment • SSC monitors the assessment process & records 2. Testing Environment: • Confirm that the centre is available at the same address as mentioned on SDMS or SIP • Check the duration of the training. • Check the Assessment Start and End time to be as 10 a.m. and 5 p.m. • Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

- Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
- Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
- Check the availability of the Lab Equipment for the particular Job Role.

3. Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME verified by the other subject Matter Experts
- Questions are mapped with NOS and PC
- Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
- Assessor must be ToA certified & trainer must be ToT Certified
- Assessment agency must follow the assessment guidelines to conduct the assessment

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Center photographs with signboards and scheme specific branding
- Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
- Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. Method of verification or validation:

- Surprise visit to the assessment location
- Random audit of the batch
- Random audit of any candidate

	6. Method for assessment documentation, archiving, and access • Hard copies of the documents are stored • Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage • Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

24. Assessment evidences

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Solar EV Charging Entrepreneur

Qualification SGJ/Q1801

Sector Skill Council Green Jobs

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Outcome, Please refer to the QP-NOS for the Assessment outcome

SECTION 2

25. EVIDENCE OF LEVEL

OPTION A

Title/Name of qualification/component: Solar EV Charging Entrepreneur			**Level: 4**
NSQF Domain	**Outcomes of the Qualification/Component**	**How the job role relates to the NSQF level descriptors**	**NSQF Level**
Process	Solar EV charging Entrepreneur is responsible for the following processes: • Analyse Solar based EV charging system requirement across various users/locations • Survey site and discuss pre-requisites for installation of solar based EV charging system • Analyse key aspects of the demand for solar based EV charging • Oversee the Installation and O&M of solar based EV charging system • Analyse various business models for deployment of charging solution across geographies • Demonstrate Entrepreneurship and other Employability skills in Solar based charging business space • Maintain Health & Work Safety at project site	The individual needs to Work in familiar, predictable, routine and situation of clear choice while setting up an enterprise in solar integrated EV charging station. Therefore, it is pegged at level 4.	4

Title/Name of qualification/component: Solar EV Charging Entrepreneur			**Level: 4**
NSQF Domain	**Outcomes of the Qualification/Component**	**How the job role relates to the NSQF level descriptors**	**NSQF Level**
Professional knowledge	Solar EV charging Entrepreneur is able to perform: 1. Estimate demand of Solar based EV charging station across the country 2. Assess the suitable site for installing the charging station 3. Analyse key aspects of the demand for solar based EV charging 4. Analyse the various business models for deployment of charging solution across geographies 5. Create the service-based business model for Operation and maintenance of Solar powered EV charging station	The individual is required to have good command and factual knowledge on Solar based EV charging system, evolving landscape of EVs, new and innovative business models and functions like Battery swapping etc, hence it is pegged at level 4.	4
Professional skill	Recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts.	The individual needs to have the right knowledge and skills to set up a technology based business enterprise hence he/she needs to demonstrate a range of practical skills, which might be routine and repetitive across installation to operations/maintenance functions of solar based EV charging system while using appropriate rules, tools and business concepts.	4
Core skill	S/He communicates with his peers and all other stakeholders clearly and able to	S/He needs to effectively communicate with peers, customers and other stakeholders clearly	4

Title/Name of qualification/component: Solar EV Charging Entrepreneur			**Level: 4**
NSQF Domain	**Outcomes of the Qualification/Component**	**How the job role relates to the NSQF level descriptors**	**NSQF Level**
	understand the general signs related to set up and operate a solar based EV charging business	and shall be able to understand socio-political environment in the evolving EV landscape, thus it is pegged at level 4.	
Responsibility		The entrepreneur is fully responsible for own work and learning as he owns the enterprise.	4

SECTION 3
EVIDENCE OF NEED

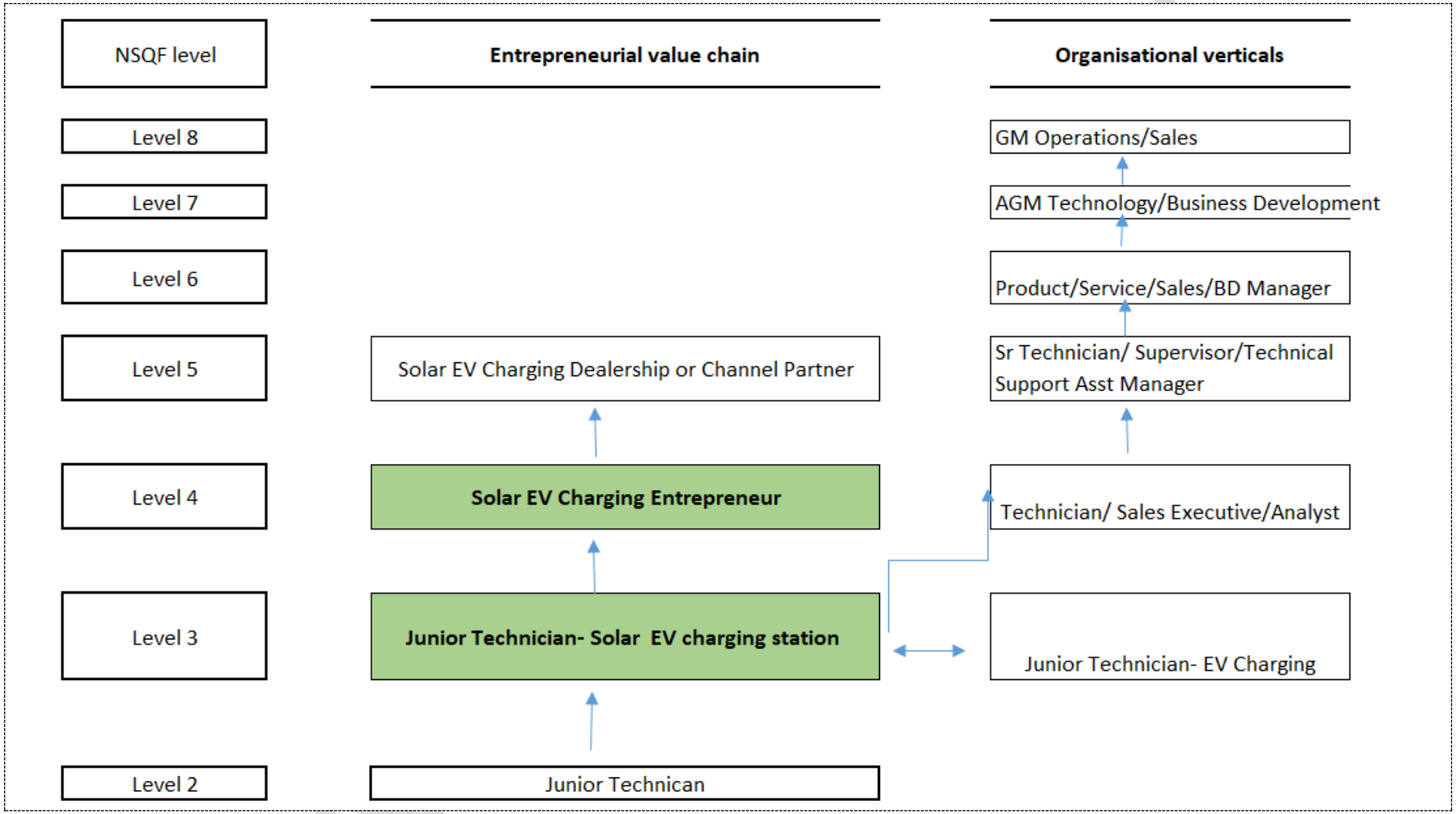
26 **What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?**

Basis	**In case of other Awarding Bodies (Institutes under Central Ministries and states departments)**
Need of the qualification	The EV sector in India is currently at an inflection point and is poised to grow exponentially. Government of India has been rolling out several initiatives to transform electric mobility. This sunrise sector is attracting a huge surge in investments catalysed by technology and market innovation. Along with the established players in automotive sector, a range of start-ups (in OEMs, software etc) have also received significant investments and are continuously experimenting with innovative products and business models. India would need 4 lakh charging stations by 2026 to accelerate the requirement of EV adoption in the country. The recently released draft battery swapping policy for EV also highlights on the importance of strengthening the charging infrastructure across the country. An EV charging station must be placed every 3 kilometres in cities and every 25 kilometres (on both sides of roads), according to the government's infrastructure regulations. Also, every 100 kilometres on both sides of the highway, a charging station for long-range and heavy-duty vehicles should be located. In addition, to boost industrial transportation, India is also building an electric highway connecting key metros and industry corridors. Due to the scarcity of EV charging stations currently the country needs to create an enormous infrastructure for charging, a significant number of those will be done by new entrepreneurs who would also utilise solar energy for delivering low cost and sustainable charging solutions to various EV users. The ''Charging Infrastructure for EVs- Guidelines and Standards'' issued by Ministry of Power, in its subsequent revisions also highlights the importance of creating a large number of EV charging stations to provide affordable and sustainable charging solutions, to generate income opportunities for entrepreneurs

		and to enable faster adoption of EVs across all user segments by ensuring setting up safe, reliable and accessible EV charging system across the country. A significant number of these potential new charging stations will also be based on solar energy, as the country embarks on providing low and sustainable supply of solar across various applications, including in fast growing transport/e-mobility segment.
	Industry Relevance	This Qualification is largely relevant to Green Sector, Renewable energy, Automobile industry and the power sector. Government of India has taken crucial steps towards faster adoption of EVs, which has been the biggest growth driver however a lot needs to be done to set up suitable EV charging infrastructure.
	Usage of the qualification	In addition to new trainings catering to the EV charging segment, this qualification shall be used for upskilling/reskilling of the employees working with automobile industry, EV industry and people working in renewable energy domain.
	Estimated uptake	The Ministry of Skill Development and Entrepreneurship has estimated that the EV industry (across the value chain) will create over one crore direct jobs by 2030 and this will give rise to approximately five crore indirect jobs in the sector. As the sector matures, EV Companies/ EV charging solutions providers etc would focus more on the technical and specialized skills (particularly for highly skilled roles) to cater to the rapid rise in demand for EVs. Ministry of Power has issued a notification clarifying a clause in the Electricity Act 2003 that charging for the purpose of charging an electric vehicle is classified as a service and that no licence is required for this business activity. Regarding the niche solar integrated EV charging business space, it is estimated that up to 5,000 new entrepreneurs shall be created ever year in Solar powered EV charging space by 2025 and subsequently that number will significantly increase.
27	**Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences** Recommendation from the concerned Ministry including the Ministry of Power along with Bureau of Energy Efficiency (BEE) as the Central Nodal Agency (CNA) for the National-level rollout of charging infrastructure will be sought.	

28	**What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification** We have discussed the growth trajectory within each occupation after studying organisational charts of various industry players active in this market space. We have also explored various lateral career opportunities (organisational verticals) for the discussed qualification. Due to entrepreneurial nature of this qualification, it is expected that the next vertical progression would be a dealership/distributorship who will source product directly from the system integrators/developers and then manage installation and O&M of charging infrastructure at various locations. We have also ensured that there is a clear role up in terms of performance criteria qualification experience and skill requirement from lower NSQF Level to higher levels in the hierarchy. Please refer to attached career path in section 4 'Evidence of progression' which clearly defines the career path. National Qualifications Register (NQR) portal was also searched to assess if there was any similar qualification and no overlap was found with the existing qualifications prepared by any awarding body including the Power Sector Skill Council.
29	**What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated? Specify the review process here** In the Qualification Pack, review date is scheduled for after 3 years in consultation with Subject Matter Experts/Industry representatives. The monitoring of evaluation of assessments and Employer feedback will be sought post-placement, for review of the effectiveness of the Qualification.

SECTION 4
EVIDENCE OF PROGRESSION


NSQF level
Entrepreneurial value chain
Organisational verticals
Level 8
GM Operations/Sales
Level 7
AGM Technology/Business Development
Level 6
Product/Service/Sales/BD Manager
Level 5
Solar EV Charging Dealership or Channel Partner
Sr Technician/ Supervisor/Technical Support Asst Manager
Level 4
Solar EV Charging Entrepreneur
Technician/ Sales Executive/Analyst
Level 3
Junior Technician- Solar EV charging station
Junior Technician- EV Charging
Level 2
Junior Technican